BRILL

PHRONESIS 60 (2015) 436-461

PHRONESIS

brill.com/phro

Aristotle's Two Accounts of Relatives in *Categories* 7

Matthew Duncombe
Department of Classics and Ancient History, Durham University
38 North Bailey, Durham DH1 3EU, UK
m.b.duncombe@durham.ac.uk

Abstract

At *Categories* 7, 6a36-7 Aristotle defines relatives (R1), but at 8a13-28 worries that the definition may include some substances. Aristotle introduces a second account of relatives (R2, at 8a31-2) to solve the problem. Recent commentators have held that Aristotle intends to solve the extensional adequacy worry by restricting the extension of relatives. That is, R2 counts fewer items as relative than R1. However, this cannot explain Aristotle's attitude to relatives, since he immediately returns to using R1. I propose a non-extensional reading. R1 and R2 do not specify different sets of relatives, but rather different ways to understand each relative.

Keywords

Aristotle – *Categories* – relative – relation – substance

1 Introduction

Aristotle was not the first philosopher to distinguish relatives from non-relative items. Plato, arguably, does in the *Sophist* at 255c14.[1] But Aristotle was the first thinker to organise a category scheme and plot in it relatives, along

* Much of the work for this paper was carried out while working for the NWO-funded project *The Roots of Deduction*. I would like to thank the project director, Catarina Dutilh Novaes, as well as audience members at meetings in Groningen and Cambridge. Thanks to Tamer Nawar, Emily Thomas, Luca Castagnoli and an anonymous referee for written comments. Finally, thanks to David Sedley for always encouraging my work on relatives.

1 Some, famously, deny that Plato distinguishes categories of kinds here, e.g. Brown 1986, Frede 1992, Leigh 2012. I argued in Duncombe 2012 that, in fact, he does.

 | DOI 10.1163/15685284-12341292

with substance, quantity, quality and the rest. Many later category schemes have, one way or another, distinguished a relational category from non-relational ones.[2] Aristotle's approach is worth looking at in detail to set these later approaches in their proper context. Aristotle's approach is interesting in its own right, because he gives us a great deal of detail about what he thinks relatives are, the features of relatives and how to distinguish relatives and substances.

Categories 7 begins with a definition of relatives (6a36-7), which I label R1. Aristotle explains R1 with examples at 6a36-b14. He then devotes 6b15-8a12, the bulk of the chapter, to discussing four characteristics that relatives have. I call these the 'categorical properties' of relatives. Some relatives have a contrary (6b15-19); some relatives have degree (6b19-27); all relatives reciprocate with their correlatives (6b28-7b14); and some relatives are simultaneous with their correlative (7b15-8a12). Following this survey, Aristotle raises a worry about the extensional adequacy of R1. R1 might allow some substances to be relatives (8a13-28). To rule out this possibility, he introduces a second account, R2 (8a31-2). The chapter ends with Aristotle suggesting that the so-called Principle of Cognitive Symmetry (PCS) will test whether a relative falls under R2 or not (8a35-b21), and with a caution that the investigation may not be complete (8b21-24).[3]

Recent commentators have held that Aristotle tries to solve his extensional adequacy worry by restricting the extension of relatives.[4] That is, Aristotle rejects R1 in favour of R2, and R2 covers fewer items than R1. In particular, R2 does not cover certain problematic items which could be both substances and relatives. However, on this reading, it is hard to explain what Aristotle's final account of relatives is. In place of this extensional reading, I propose a non-extensional reading. R1 and R2 do not specify different extensions, but rather two different ways of understanding each relative. R1 governs relatives when they are schematic, while R2 governs relatives when they are specific. I stipulate that a term, including a relative, is schematic when we are indifferent to the type and token identities of items covered by that term. A term is specific when the identity makes a difference. For example, there are two ways to understand an expression like 'a human'. On the one hand, it may simply refer to a generic human. In this case, the schematic case, 'a human has two legs' is true. On the other hand, in the specific case, it may refer to some particular

2 E.g. Kant, *Critique of Pure Reason* A80/B106; Johansson 1989; Rosenkrantz and Hoffman 1994; Chisholm 1996.

3 Sedley 2002, 327 coins the expression 'Principle of Cognitive Symmetry'.

4 Ackrill 1963, 102; Mignucci 1986, 107-8; Morales 1994, 266; Bodeus 2001, 129; Sedley 2002, 334; Hood 2004, 38; Harari 2011, 535.

human, or group of humans. Now 'a human has two legs' may or may not be true. Its truth depends on which human, or group of humans, the subject of the sentence picks out.

Aristotle distinguishes individuals and universals (*Cat*. 1a20-1b9; 1b15; *De Interpretatione* 17a38-b3; *APr*. 1, 43a25-43). Thus, Aristotle could articulate the distinction between a human, understood as an individual, such as Socrates, and the kind human, which is a universal. Nonetheless one and the same expression can be used to pick out either an individual or a universal. As in the above example, 'a human' could pick out some individual human or the universal human (cf. *Cat*. 1b15).[5] I disambiguate using the terms 'schematic' and 'specific'. In a schematic use of 'a human', for example, we take 'a human' generically. The schematic use would pick out the universal human. A specific use of 'a human' would pick out an individual or class of individuals, although we may not know which individual human or class 'a human' refers to.

This paper argues that the difference between R1 and R2 is that R1 governs relatives taken schematically, while R2 governs relatives taken specifically. I have three reasons for this. First, if R1 relatives are relatives read schematically, we can explain why Aristotle says that R1 relatives have one key categorical property: reciprocation. Secondly, R2 relatives, but not R1 relatives, are supposed to obey PCS (8b3-19). My reading explains how PCS differentiates R1 and R2 relatives. Finally, I show how disambiguation allows Aristotle to avoid the extensional adequacy worry.

In Section 2 below, I outline the extensional adequacy worry in more detail, some existing approaches to it and the difficulties they encounter. Section 3 explains and justifies the distinction between schematic and specific readings of relatives. Section 4 runs through my argument that R1 relatives are schematic relatives while R2 are relatives read specifically. Section 5 shows how this distinction solves Aristotle's extensional adequacy worry and how my reading avoids the difficulties of the existing readings.

5 Singular expressions in Greek, like in English, exhibit this ambiguity: ὁ ἄνθρωπος and ἄνθρωπος could indicate either some individual human, or humans in general (see Smyth 1956, §§1122-6). When Greek uses its indefinite pronoun, as in τις ἄνθρωπος, the expression picks out some individual, or some sort of, human. Aristotle, in particular, is sensitive to this ambiguity, and feels the need to introduce clarifications (*Cat*. 1b15). In English, both definite and indefinite singular expressions are ambiguous. 'The human' and 'a human' could each refer to an individual human or to the kind human. The plural 'humans' is ambiguous between a schematic expression (e.g. 'humans have two legs') and a plural (e.g. 'Achilles is quicker than many humans').

2 The Extensional Inadequacy of R1

At the opening of *Categories* 7, Aristotle formulates R1 (6a36-b6):[6]

> T1: We call relatives (πρός τι) all such things as are said to be just what they are (αὐτὰ ἅπερ ἐστίν) of or than other things (ἑτέρων) or in some other way in relation to something else. For example, what is called larger is called what it is than something else (it is called larger than something) (οἷον τὸ μεῖζον τοῦθ' ὅπερ ἐστὶν ἑτέρου λέγεται, τινὸς γὰρ μεῖζον λέγεται); and what is double is called what it is of something else (it is called double of something). The following too, and their like, are amongst the relatives: state, condition, perception, knowledge, position.

Aristotle's approach to relationality contrasts with ours. We, arguably, begin with transitive verbs.[7] 'Eloise loves Abelard' would be a paradigm relational statement. The verb 'loves' expresses a relation. We may then try to analyse terms for relatives, that is, certain common nouns and adjectives, using relations. For example, modern linguists and philosophers try to state the conditions for correctly using the common noun 'lover' in terms of the verb 'loves', or the conditions for correct use of a positive adjective, like 'large', in terms of the comparative adjective 'larger'.[8] T1 shows that Aristotle's approach is quite different. He does not hold that verbs are the basic way to express relationality. Instead, Aristotle focuses on relatives such as a larger thing, a double, or a lover and asks about the conditions under which these things can be said to apply to something:

> R1: X is a relative $=_{\text{def}}$ X is said to be what it is in relation to some Y and X is different to Y.[9]

Common nouns, including those for relatives, could pick out various things. For example 'a larger thing' could pick out a mountain. Equally, a mountain although not obviously relational, can be characterized as large.[10] Kinds, and

6 Translations of the *Categories* are taken from Ackrill 1963, unless otherwise noted.

7 I owe this point to a talk given by Terence Parsons in Cambridge, June 2014.

8 This sort of approach is discussed by Wallace 1972, Wheeler 1972, Kitcher 1978 and Kennedy 2007.

9 Aristotle does not explicitly call R1 a definition at this point, but does so later on at 8a28.

10 Aristotle's examples already suggest that what matters is how we understand a relative. Aristotle allows both a larger thing to be a relative and sorts of large thing to be relative:

their linguistic counterparts such as common nouns, are central to Aristotle's analysis of relativity. This analysis of relativity ultimately leads to an ambiguity which I claim Aristotle identifies in *Categories* 7.

R1 tells us that being said to be what it is in relation to something else is sufficient for being a relative.[11] This raises a worry about the extensional adequacy of R1 at 8a13-28. R1 seems too permissive. Some secondary substances may be relatives. Aristotle's reasoning, given at 8a25-28, is compressed, but this is one way to unpack it:

1. Parts of substances are substances [Premise][12]
2. Hand is said to be hand of a body [Premise]
3. A hand of a body is part of a body [Premise]
4. Body is a secondary substance [Premise]
5. Hand is part of a secondary substance [From 2-4]
6. Hand is a substance [From 1 and 5]
7. X is a relative $=_{\text{def}}$ X is said to be what it is in relation to some Y and X is different to Y [R1]
8. Hand is a relative [From 2 and 7]
9. Hand is a relative and a substance [Conjunction of 6 and 8][13]

This reconstruction should not prove controversial.[14] Aristotle worries that some secondary substances, such as a hand, might conform to R1 and so be relatives. Aristotle here considers 'body' and 'hand' as secondary substances. Earlier in the *Categories*, at 2b29-30, Aristotle indicated that species and genera of primary substances should be considered secondary substances. Thus, a primary substance, say, Achilles, has a super-ordinate secondary substance, human. In this passage, Aristotle extends this idea to parts. Just as primary substances have superordinate secondary substances, so parts of primary

'a mountain is called large in relation to something else: the mountain is called large in relation to something' (ὄρος μέγα λέγεται πρὸς ἕτερον – πρός τι γὰρ μέγα λέγεται τὸ ὄρος, 6b8-9).

11 Although Caujolle-Zaslawsky 1980, 188 denies this. She holds that R1 gives only a necessary condition of being a relative, but her position is untenable. R1 is said by Aristotle to be a definition, so, at a minimum, Aristotle must intend R1 to give necessary and sufficient conditions for being a relative.

12 Aristotle commits himself to this premise at *Cat.* 5, 3a29-33. Cf. *APr.* 1.32, 47a27-28.

13 A contradiction follows from (9) when we assume that nothing is a substance and a relative, but even (9) alone would be rejected by Aristotle (8a28-30).

14 It simply makes explicit each inferential step in the line of thought attributed to Aristotle in Morales 1994, 259; Bodéüs 2001, 128; Sedley 2002, 326.

substances have superordinate parts of secondary substances. Achilles' hand is a primary substance, as it is part of a primary substance. A hand (taken generically) is a secondary substance, as it is part of the secondary substance human. That is, Aristotle distinguishes individual and generic parts.[15]

If hand turns out to be a secondary substance, then this could lead to some substances being relatives, which is unacceptable. For the most part, commentators have thought that Aristotle responds by rejecting R1 and replacing it with R2, an account of relatives that apparently has a narrower extension (*Cat.* 7, 8a31-2, tr. Ackrill, modified):

> T2: Relatives are those things for which being is the same as being somehow relative to something (τὸ εἶναι ταὐτόν ἐστι τῷ πρός τί πως ἔχειν).

Or, to rephrase the point:

> R2: X is a relative $=_{def}$ being X is the same as being relative to some Y.

Most commentators suppose that R2: is a definition of relatives; has a narrower extension than R1; and excludes parts of secondary substances.[16] For now, I will present R2 according to the traditional reading. I call this the extensionalist interpretation, since according to this interpretation R1 and R2 have different extensions. One way to account for the difference in extension stresses that R1 refers to how relatives are described, while R2 mentions their 'being'. It may be that Aristotle intends a 'semantic descent' from how things can be

15 To anticipate: although there is a worry about secondary substances, Aristotle is clear that primary substances and their parts are not relatives, because they are not said to be of something (8a15-20). Aristotle's point connects to specific and schematic ways of understanding these terms (see Section 5 below). Aristotle denies that primary substances are said of something: (a) ὁ γὰρ τὶς ἄνθρωπος οὐ λέγεται (b) τινός τις ἄνθρωπος ('for the specific human is not said to be some human of something', 8a16-17). In (a) τις is used adjectivally, in attributive position, and tells us that a specific human, a primary substance, is under discussion. In (b), Aristotle rightly denies that a specific human is said to be a (τις) human of something. In (b) τις is used as an indefinite pronoun. Aristotle's point is that a primary substance, human, taken specifically, is not said to be what it is of something, and this is clearly correct. As a human, Achilles is not said to be of something. Contrast this with a specific father, like Augustus. As a father, Augustus is said to be of something: Julia, his daughter. I develop this thought further (Section 4), and revisit this passage when I have done that work (Section 5).

16 Mignucci 1986, 107-8; Morales 1994, 266; Bodeus 2001, 129; Sedley 2002, 334; Hood 2004, 38; Harari 2011, 535.

described to how things are. Aristotle's point, on this view, is that more items can be described as relatives than are, in fact, relatives. So R2 has a narrower extension than R1.[17]

On this reading, Aristotle is not simply beginning with a general description of the phenomenon under investigation and later discarding the description as the investigation concludes with a final definition. On any version of the extensionalist reading, Aristotle is pursuing roughly this strategy. The semantic descent reading distinctively holds that Aristotle differentiates R1 from R2 precisely using the shift from how things are described to how things in fact are. As such, the semantic descent reading has not found much sympathy amongst modern commentators. Because the reading attributes an explicit awareness of the move from how things are described to how they are, the reading is untenable unless Aristotle is sensitive to the difference between linguistic and non-linguistic sorts of subject, predicate and predication. But it is widely though that he is not, at least not in the *Categories*.[18]

Other commentators take an extensional reading, but deny that the use/mention distinction plays a role in it. They propose a range of ways to distinguish R1 and R2 that give the two different extensions, but in each case R2 is strictly narrower than R1.[19]

According to any version of the extensional reading, some relatives, particularly parts of secondary substances, fall within a wider class, delineated by R1, but fall outside the class of strict, R2, relatives. Aristotle appears to explicitly say, at 8a33-5, that R2 is strictly narrower than R1. The extensional reading is attractive because it provides Aristotle with an excellent response to his extensional adequacy worry. When we move to the strict definition of relatives at 8a31-2, Aristotle excludes the problematic relatives. In particular, the definition excludes parts of secondary substances. So, although some substances might end up being relatives, loosely speaking, no substance will be a relative when we are speaking strictly.

---

17 Ammonius (*in Cat*. 77.27-78.17 Busse) and Morales 1994, 260 explain the difference in extension this way. Many ancient and modern commentators, named in Sedley 2002, 332 n. 12, stress semantic descent: Simplicius, *in Cat*. 198.17 *ff*. Kalbfleisch; Philoponus, *in Cat.* 108.31-109.31 Busse; Olympiodorus, *in Cat*. 100.4-20 Busse; Ackrill 1963, 101; Oehler 1984, 248; Zanatta 1989, 592; Erler 1992, 580.

18 See Frede 1981; Malcolm 1981, 667; Sedley 2002, 333; Barnes 2007, 115-21.

19 Mignucci 1986, 107-8; Bodéüs 2001, 129-30; Sedley 2002, 332-3. Possibly also Harari 2011, 535 who, despite attempting to preserve the unity of the category of relatives, states that R2 has a narrower scope than R1. This view also had ancient adherents, especially those who think R1 is Platonic in some important sense: see Simplicius, *in Cat*. 159.9-22 Kalbfleisch.

However, any version of the extensional reading faces a problem. Aristotle does not cleave to the R2 notion of relatives in his corpus. Rather, he moves back and forth between R1 and R2.[20] In particular, Aristotle wavers in the *Categories*. He apparently forgets his second definition in the immediately following chapter of the *Categories*. At *Cat*. 8, 11a20-23 Aristotle worries that the category of quality might contain some relatives, such as states and conditions. He then gives an argument (11a23-36) that, although some genera, like knowledge, may be relatives, their species, such as grammatical knowledge, are properly speaking not relatives.[21] Aristotle intends to defuse the worry about cross-categorical items. But if the extensional reading of *Categories* 7 is correct, Aristotle's move here does not make sense. Aristotle could preserve the integrity of the categories of quality and relative simply by saying that state, condition and knowledge are relatives according to the loose definition (R1) but not according to the later, strict definition (R2). State, condition and knowledge would, strictly speaking, just be qualities.

Aristotle certainly has such a move available to him. Knowledge is said to be knowledge of something, so knowledge is an R1 relative (*Cat*. 8, 11a24-5; cf. 6b5). However, knowledge, as a genus, may fail the cognitive symmetry test, which distinguishes R1 and R2 relatives (8a35-b21). I will discuss the details of this test below, but for now it suffices to say that Aristotle holds that only R2 relatives are such that if one knows the relative, one knows definitely to what it is relative. Any other relative is R1. If we apply this test to generic knowledge, we see that it is possible to know what knowledge is (say, a species of belief) without knowing definitely what knowledge correlates to, that is, the knowable (*Cat*. 7, 6b35-6).[22] Thus, generic knowledge fails the cognitive symmetry test. Therefore, knowledge could be a relative loosely speaking, but not strictly speaking. Aristotle made exactly this sort of move, according to the extensional reading, just a few lines before at 8b19-21, when parts of secondary substances looked like they might end up being relatives and substances. So why does he not make that move with respect to generic knowledge, when generic

20 In *Nicomachean Ethics* 1.12, 1101b13, *Physics* 7.3, 246b8, and *Topics* 6.4, 142a26-31 and 6.8, 146a36, Aristotle uses the characteristic R2 expression πρός τί πως ἔχειν to describe relatives, but in *Metaphysics* 5.15, Aristotle's other official discussion of relatives, they are called simply πρός τι.

21 Scholars often acknowledge that this passage is difficult to make sense of (e.g. Ackrill, 1963, 108-9), but none press it as an objection to the extensional reading.

22 Knowledge as a species of belief was at least entertained in Aristotle's philosophical milieu. See *Meno* 98a2-3; *Theaetetus* 187b-201d (although Plato rejects defining knowledge as true belief with the jury example at 201a-c: see Nawar 2013 for discussion).

knowledge raises the similar threat of being both a relative and a quality? If Aristotle had rejected R1 in favour of R2, he could simply invoke R2 to exclude problematic states and conditions, such as knowledge, from the relatives.

This ambivalence is not confined to the *Categories*. When Aristotle writes *Topics* 6.8, he does not appear to know that R2 should be narrower than R1. At this point in the *Topics*, Aristotle is discussing how to test whether a relative has been correctly defined. He explains at 146b3-4 that 'for each of the relatives (πρός τι), being is the same as being somehow relative to something (πρός τί πως ἔχειν)'. This statement first picks out all relatives, using πρός τι, the characteristic designation of R1 relatives. But then Aristotle asserts that being an R1 relative is the same as being somehow relative to something. This latter expression designates R2 relatives (see T2). So Aristotle asserts that being an R1 relative is the same as being an R2 relative. At the very least, this entails that R1 and R2 co-extend, so R2 is not narrower than R1. Sedley 2002, 345 n. 34 cites this as evidence that *Topics* 6.8 antedates *Categories* 7. But without any other evidence that *Topics* 6.8 is early, this seems *ad hoc*. In fact, it is just as likely that Aristotle does not intend an extensional difference between his two accounts.

In light of all this, we should perhaps revisit Aristotle's alleged explicit assertion that R2 is narrower than R1 (8a33-5). When we do, we discover that Aristotle does not unambiguously say either (a) that there are two definitions or (b) the earlier account has a wider extension than the later. After outlining the extensional adequacy objection, Aristotle says (*Cat.* 7, 8a32-5, trans. Ackrill, modified):

> T3: If this [sc. R1] is not adequate, but relatives are those things for which being is the same as being somehow relative to something (τὸ εἶναι ταὐτόν ἐστι τῷ πρός τί πως ἔχειν), perhaps something might be said in reply. The earlier definition (ὁ δὲ πρότερος ὁρισμός) does apply to all relatives, yet this is not the same as being relative, namely, things being said to be just what they are of other things.

This passage is almost always read as referring to two definitions, a first and a second.[23] But Aristotle does not actually mention a first and second *definition* here. Indeed, he does not unambiguously mention a 'first' definition at all. Although πρότερος can sometimes mean 'first' (πρῶτος), the basic meaning of πρότερος is 'earlier'. Aristotle could simply be referring to an earlier

23 Mignucci 1986, 101-7; Morales 1994, 250; Bodéüs 2001, 129; Sedley 2002, 332; Harari 2011, 535. Ackrill 1963, 101 avoids committing himself by calling the what we find at 8a33-5 a 'criterion'.

definition. The earlier definition must be the one found at 6a36-7. So if there is not a first definition, only an earlier one, it may be that the account given at 8a31-2 is not a definition *at all*. Indeed, there is reason to think that Aristotle does not intend R2 as a definition. If R2 were a definition, the *definiens* would contain the *definiendum*.[24] It would be uncharitable to attribute to Aristotle such an obvious blunder when an alternative interpretation is available. Secondly, and more importantly, Aristotle also does not say that the earlier definition covers more items than the later account of relatives. He says that the earlier definition covers all relatives and that it is not what being relative is. But this does not imply that R1 has an extension strictly wider than R2, merely that R1's extension is at least as wide as R2's. This, of course, leaves open the possibility that R1 and R2 co-extend.[25]

The extensional reading faces the problem of how to explain why Aristotle switches between R2 and R1 and why he says things that entail that R1 and R2 co-extend. Moreover, there is no ironclad textual reason to think that Aristotle holds R2 to be strictly narrower than R1.

3 Schematic and specific readings of relatives

In Section 2, I explained Aristotle's worry about the extension of the category of relative and showed the limitations of the existing approaches. In this section, I will distinguish two ways to understand an item, in particular, a relative: schematic and specific. When we understand a relative schematically, we are indifferent to type and token identities of the individuals that fall under it; when we take it specifically, these identities matter. In Section 4, I argue that Aristotle marks this difference with the two different accounts, R1 and R2.

To see this ambiguity, consider the following statement:

(F) The father is father of something

24 The circularity of R2 has been recognised since ancient times: Porphyry, *in Cat*. 123.35-124.1 Busse; Simplicius, *in Cat*. 201.34-202.3 Kalbfleisch. Among modern commentators, Bodéüs 2001, 129 presses the circularity.

25 Mignucci 1986, 107 misses this point, and asserts that R2 is strictly narrower than R1. Ackrill 1963, 101 is more cautious, committing himself only to the claim that 'whatever satisfies the second criterion also satisfies the first'. Cf. *Topics* 1.5, 101b37-102a31, where Aristotle distinguishes 'definition' from 'unique property'. These two have the same extension—they pick out all and only items that fall under a term—but definition picks out the essence, while 'unique property' does not.

(F) conforms to R1, so 'the father' is a relative. But (F) is ambiguous.[26] Suppose the 'something' in F is replaced out with 'a son', to give:

(F_s) The father is father of a son

Is (F_s) true? If we understand 'the father' specifically – that is, as picking out some particular father – then whether (F_s) is true will depend on who the father is. If 'the father' in (F_s) picks out Laocoön, then (F_s) is true, since he has sons, while if 'the father' refers to Augustus, whose daughter Julia was an only child, (F_s) is false. We might say that on a specific reading of 'the father', the truth-value of (F_s) depends on who the father in question is. That is, the truth-value depends on the identity of the father. The truth-value could also depend on the type-identity of the father. The father-type 'father of sons' will make (F_s) true, but the father-type 'father of daughters' will make (F_s) false.

Contrast this with a reading of 'the father' as indifferent to the identity of any father. If we understand 'the father' in this schematic way, then (F_s) is just false. The father, understood schematically, relates neither to sons nor to daughters, but to offspring in general. If we are indifferent to the father's identity, we can know that the father has offspring, but not whether he has sons or daughters. We might say that we only describe fathers as fathers, and get no further information about them. If we assert that, in general, the father is father of sons, there will be many counter-examples to that claim. The same is true, with the required changes, for daughters. To make a true, schematic claim about fathers, we need to specify an exclusive correlative. In this case, the exclusive correlative is 'offspring'.

The schematic/specific disambiguation of (F_s) differs from two other ways to disambiguate (F_s). On the one hand, contrast my disambiguation with scope disambiguation. Scope ambiguity is a syntactic ambiguity, while the ambiguity I identify is a semantic ambiguity in how we read 'the father'. Indeed, scope ambiguity does not match my ambiguity. If you read (F_s) with the existential quantifier having wide scope, then (F_s) means 'there is a father such that he is father of a son', which is, of course, just true, and does not depend on the identity of the father in question. With a narrow scope (F_s) means 'every father is father of some son', which is false.

26 This way of thinking about relatives, as involving an ambiguity, is foreign to treatments of relatives descended from Frege and Russell, who take verbs, not nouns and adjectives, as the basis for their analysis. But those who work on propositional attitudes would find these ideas familiar: see Quine 1956.

On the other hand, contrast my disambiguation with Aristotle's 'indefinite statements' (*APr*. 25a4-5; 26a30-6; 26a39; cf., arguably, *De Interpretatione* 17b9).[27] Indefinite statements, such as 'pleasure is good', do not express a universal or particular quantifier, so exhibit quantifier ambiguity. Although (F_s) does lack a quantifier, the quantifier ambiguity differs from the ambiguity I identify. On the specific/schematic disambiguation, (F_s) is ambiguous because one of its terms, 'the father', is ambiguous, not because the whole statement lacks a quantifier. Secondly, Aristotle tends to treat indefinite statements, like 'pleasure is good', as equivalent to particular statements, like 'some pleasure is good' (*APr*. 26a36; 26a39). But in the case of (F_s), 'the father is father of a son' is not equivalent to 'some father is father of a son', since the latter could be false while the former true. Thus, the schematic/ specific ambiguity differs from both scope and quantifier ambiguities.

In sum, an expression like 'the father' is ambiguous. Read schematically, the relative has a proper correlative object, to which it relates exclusively. In the case of 'the father' that correlative is offspring. Read specifically, the relative does not have an exclusive correlative. When 'the father' is read specifically and cashed out as Augustus, 'Augustus is father of Julia', 'Augustus is father of some offspring' and 'Augustus is father of a daughter' are all true statements. So when read specifically, 'the father' does not have one exclusive correlative, it has many possible correlatives. What the correlative is depends on who the father in question is, because a specific token father or father-type will have all sorts of coincidental features, including, for instance, being the father of an only daughter.

Aristotle recognises analogous phenomena in other contexts. At *Physics* 2.3, 195a33-b6 (cf. *Metaphysics* 5.2, 1013b34-1014a6), Aristotle points out that a cause can be described in different ways. Aristotle invokes the example of the cause of a sculpture. We can specify the cause as a sculptor, Polyclitus, a man or, indeed, an animal. One way of specifying the cause, a sculptor, is privileged, because we are trying to explain how a sculpture came about. Likewise, we can specify the father as a father, Augustus, a man or an animal, but one of these descriptions is privileged when we are trying to say what the exclusive correlative is. At *Categories* 7, 7a31-b9 Aristotle himself applies this thinking to relatives. A master of a slave can be specified in various ways: ideally as a master, but also as a man or as a biped. A relative is only relative to its proper correlative.

27 There has been some recent debate over whether the 'universals used non-universally' in *De Interpretatione* 17b9 give propositions that have a suppressed quantifier. Ackrill 1963, 129 argues that they are quantifier ambiguous, while Whitaker 1996, 83-94 and Jones 2010 deny this.

But what counts as a proper correlative depends on how the relative is specified. Aristotle appeals to the telling metaphor of 'stripping away' (περιαιρουμένων, 7a32) all the other features of the relative. The metaphor suggests indifference to the specific identity of the items covered by, say, 'the father'. When we are indifferent to which father it is, we will always be able to say that the father is father of offspring.

A further reason to think that Aristotle can mark out the schematic reading is that he has a specialised vocabulary for doing so. We might choose qualifications like 'in itself' or 'in general' to mark out the schematic reading. We might say 'the father, in general, is father of offspring'. This intuition would explain why Aristotle uses the qualification τοῦθ' ὅπερ ἐστίν for relatives. For example, in T1, Aristotle uses τοῦθ' ὅπερ ἐστίν to qualify 'relative' (πρός τι) and the larger (τὸ μεῖζον) respectively. Roughly, ἅπερ ἐστίν means 'the very things which are' and τοῦθ' ὅπερ ἐστίν means 'that very thing which it is'. Grammatically, they are singular and plural forms of the same expression.[28]

What philosophical work does this distinctive piece of terminology do? We can deduce from Aristotle's use of the expression in T1 that it specifies that a relative, like the larger, is just what it is (τοῦθ' ὅπερ ἐστίν) (i.e. larger) than something else (6a38). When the larger is described as such, that is, as larger, then the larger is larger than something. This already suggests that the qualification tells us to read schematically. When we are indifferent to the identity of the items that might fall under the term 'the larger', the larger will always turn out to be larger than something. This is not true if we take the identity into account. Ajax may be larger, since he is larger than other men, say. But, as a man, Ajax need not be larger. Ajax could be the only man, indeed the only thing, in the universe, and hence a man but not a larger thing. The τοῦθ' ὅπερ ἐστίν qualification keeps the focus on the subject as a larger thing, rather than, say, as a man.

This understanding of the qualification is confirmed when Aristotle says, at *Categories* 7, 6b4, that certain terms are of 'other things' (ἑτέρων) when they are specified as just what they are (τοῦθ' ὅπερ ἐστίν) and not when they are specified as 'something else' (οὐκ ἄλλο τι). He then gives the example of knowledge (ἐπιστήμη). Knowledge, when specified as what it is (i.e. knowledge), is of

28 In the *Categories*, this expression is almost always used to mean that we understand relatives in a certain way. In fact it only occurs once outside the context of relatives, at *Cat*. 3b36. In that passage, Aristotle points out that substances τοῦθ' ὅπερ ἐστίν do not admit of a more or less. A man, for example, cannot be more or less a man, in so far as he is a man. But the overwhelming use of τοῦθ' ὅπερ ἐστίν, or equivalents, in Aristotle is in *Categories* 7, discussing relatives (6a38, 39; 6b4).

something else. Knowledge, specified as something else (ἄλλο τι), say, a mental state, is not of something else. The τοῦθ' ὅπερ ἐστίν qualification focuses on taking the relative as the relative it is. That is, taking relatives schematically.[29]

4 R1 are Schematic Relatives and R2 are Specific Relatives

Above, I have argued that Aristotle is aware of an ambiguity between two ways of reading relatives and has the conceptual resources to navigate it. In this section, I argue that R1 is Aristotle taking relatives schematically, while Aristotle indicates with R2 that we take relatives specifically. My argument has two parts. First, if R1 indicates that relatives are read schematically, then how Aristotle characterises R1 relatives is explicable. Secondly, if R2 relatives are relatives read specifically, then how PCS follows from R2 and how PCS distinguishes R1 and R2 relatives is explicable. Since the non-extensional reading is the best available explanation of all these features, we should endorse it. In Section 5, I will confirm my reading by showing how Aristotle distinguishes relatives from substances in a way that does not face the main problems of the extensional reading.

If R1 relatives are relatives read schematically, we can explain Aristotle's careful argumentative moves about reciprocity. At 6b28-36, Aristotle claims that each relative has a correlative to which it relates. To take Aristotle's example, the relative slave has a correlative to which it relates, master. Aristotle insists that the correlative for each relative also relates to it. So the slave is called slave of a master and the master is called master of a slave (7b6-7). That is, there is a principle of reciprocity such that if a relative relates to a correlative then that correlative relates to the relative. Put more carefully, where X and Y are a relative-correlative pair:

REC: If X is relative to Y then Y is relative to X.[30]

29 Plato also uses ὅπερ ἐστίν in precisely this manner, i.e. to focus on viewing a relative schematically. See, for example, the uses of that expression in *Symposium* 199e3-4; *Theaetetus* 204e11; *Sophist* 255d7. These passages and other evidence of Plato's use of ὅπερ ἐστίν are discussed in Duncombe 2013 which discusses an occurrence at *Parmenides* 133c8. Although controversial, I think that the same idea can be found at *Sophist* 255c-d. Duncombe 2012 argues for this in detail. Duncombe *forthcoming* discusses an occurrence of this expression at *Republic* 439a2.

30 To avoid begging any questions, X and Y can range over both relatives taken specifically or schematically. 'X' could be substituted for 'slave (in general)' or the name of a particular slave, such as 'Aesop'.

REC, as formulated, does not specify the nature of the relation between X and Y. In fact, any pair of individuals (this hand and that body) or types (hand and body) would satisfy REC, provided some relation or other obtains between them.[31] Aristotle, it becomes clear, does not intend REC to be so permissive. In fact, he only wants REC to be satisfied by relatives that relate exclusively to each other. But to ensure that two relatives relate exclusively to each other, Aristotle must be taking them schematically, as we will now see.

Aristotle endorses the idea that a relative relates only to its exclusive correlative (7a7-b14):

> EXC: If X is relative to Y then X is relative only to Y.

To make EXC true, we need to understand the relatives, X and Y, schematically. If we understand X in a specific fashion, then EXC is false. For example, take the pair master and slave. By EXC, if master is relative to slave, then master is relative only to slave. But, in a specific case, a slave might also be a brother, and a slave is also always a human. In that case, the master would also be relative to human. This would violate EXC, as master should relate to slave. Only by understanding master schematically, that is, with indifference to the particular master in question, does master relate only to slave. When master and slave are understood schematically, they obey EXC. When we are indifferent to all the properties X has, except that X is a master, then the only thing that X can be relative to is a slave. EXC follows directly from taking a relative schematically. Since only schematic relatives satisfy EXC, only schematic relatives satisfy REC.

A further reason to think that REC applies only to schematic relatives is this. Aristotle says at 6b36-7a5 that sometimes a relative will not appear to reciprocate because the correlative has not been properly given. For example, he says, suppose that we take the relative 'wing'. This is a relative because a wing is always wing of something. But what is the correlative of 'wing'? Suppose we take the plausible candidate, 'bird'. This would give: (1) 'wing is relative to bird'. (1) tells us that wing relates to bird, but (1), together with REC, should entail: (2) 'bird is relative to wing'. This is because if bird is relative to wing, then, by REC, wing is relative to bird. However, (2) causes problems because 'many things that are not birds have wings' (7a2-3). That is, wing does not relate exclusively to bird, so (2) violates EXC. So, on Aristotle's view, wing is not relative to bird, since it leads to the false, and unacceptable, consequence that bird relates

31 REC could be captured if we understood X and Y to pick out individuals, using the idea of a relation and its converse. For example, Ackrill 1963, 100 takes it as obvious that reciprocals are converse relations.

exclusively to wing. This *reductio* that Aristotle sketches is only valid if we read bird and wing schematically.

If we were to read the relatives bird and wing specifically, (2) could come out true, so Aristotle's *reductio* would be invalid. Suppose 'bird' and 'wing' in (2) to refer to a particular bird and a particular wing. In that case (2) would be true. There are many cases where a bird relates to a wing: too many to count. So the fact that Aristotle rejects (2) tells us that he is not reading (2) specifically. Otherwise, Aristotle would be rejecting an obvious truth. This suggests that we should read X and Y in REC and EXC schematically. Furthermore, Aristotle's reasons for rejecting (2) show that he takes bird and wing to be examples of relatives, understood schematically. Saying that 'many things that are not birds have wings' only refutes (2) if we understand 'wing' schematically. Just as, when we read 'father' generally, its correlative must be 'offspring', not 'son', so too when we read 'wing' generally, some sort of winged thing, a bird, cannot be the a proper correlative. REC only has the consequences that Aristotle believes it does if X and Y are understood schematically.

In short, Aristotle's manoeuvring around reciprocity and exclusivity shows that here he understands relatives schematically. Hence, Aristotle assumes that relatives are schematic when he discusses a principal categorical property of relatives. Since categorical properties follow R1, this is good evidence that R1 relatives are supposed to be relatives read in a schematic way.

Next, I argue that R2 indicates that we should read relative terms specifically. If we understand R2 this way, we can explain the strange features of Aristotle's discussion that follows it. In particular, Aristotle gives an epistemic criterion, known as the Principle of Cognitive Symmetry (PCS) at 8a35-b13. R2 relatives pass the PCS test (8a35-b15), while R1 relatives fail it (8b15-19). Aristotle's reasons for these claims are hard to understand, but if the difference between R1 and R2 is the difference between relatives read schematically and specifically we can explain them. This is a good reason for thinking that my interpretation is correct. To begin my discussion, we need to look closely at PCS (*Cat.* 7, 8a35):

> T4: It is clear from this [sc. R2] that if someone knows any relative definitely he will also know definitely that in relation to which it is spoken of (ἐάν τις εἰδῇ τι ὡρισμένως τῶν πρός τι, κἀκεῖνο πρὸς ὃ λέγεται ὡρισμένως εἴσεται).

Aristotle's principle can be captured by the following conditional. Where X and Y are a relative-correlative pair:

> PCS: If *a* knows definitely X then *a* knows definitely Y

Aristotle comments on 'knowing definitely' at 8b3-15. He illustrates the idea with the relative 'more beautiful'. If I know definitely of a specific thing, say Aphrodite, that she is more beautiful, then I must have a special sort of cognitive access to a specific thing *than which* she is more beautiful.[32] Without this, I merely know that Aphrodite is more beautiful than something less beautiful. This is exactly the difference between reading the relative, more beautiful, schematically and specifically. Read schematically, I may have definite knowledge of the relative more beautiful, for example, by knowing what it takes to be beautiful. However, when read schematically, I cannot have definite knowledge of whether Aphrodite is more beautiful, since all I know is that she is more beautiful than something or other. Indeed, it may turn out, as Aristotle says, that there is nothing that is less beautiful than Aphrodite. But read specifically, I can know definitely that Aphrodite is more beautiful, since I know that there is something less beautiful than her. Knowing definitely, it turns out, depends on the specific identities of the things that are less beautiful.

So how is it that R2 relatives pass the PCS test, according to Aristotle? Aristotle explains (*Cat*. 8b1-5):

> T5: For if someone knows of a certain this that it is a relative and being for relatives is the same as being somehow related to something, he knows that also to which this is somehow related. For if he does not know in the least that to which this is somehow relative, neither will he know whether it is somehow related to something.

That is to say, for any given R2 relative, knowing that it is a relative entails knowing that to which it is relative. At 8b3-7, Aristotle exemplifies his argument with double. Suppose that (i) double is an R2 relative and (ii) I know definitely that a given double, say 4, is double. It follows, according to Aristotle, that (iii) I know definitely of what 4 is double. Hence, Aristotle concludes, (iv) double passes the PCS test.

Aristotle's explanation here has proved difficult to understand.[33] Why does (iii) follow from (ii)? It seems that I can know, of some number, that it is double, without knowing what it is double of. The case is especially clear in the case of large even numbers. Suppose double is an R2 relative. Take a large number like 36,096. I know, indeed, I know definitely, that 36,096 is double, since

32 Aristotle drops the 'definitely' qualification at 8b8, when he first mentions 'more beautiful', but it returns at 8b9, so I doubt he intends a difference.

33 For a range of worries, see Ackrill 1963, 103; Mignucci 1986, 109; Morales 1994, 263; Bodéüs 2001, 131-2.

it an even number. However, without calculating the value, I have no inkling what number it is double of. It is not the case that simply in virtue of knowing definitely that 36,096 is double, I know of what it is double. So it seems that double fails the PCS test and turns out not to be an R2 relative, contrary to what we supposed. This is why Aristotle's explanation seems puzzling. But if we understand R2 as indicating that we read relatives specifically, we can make sense of Aristotle's move from (ii) to (iii).

First, Aristotle's use of 'this' in T5 suggests that he has a specific reading of the relative in mind. If one reads a relative specifically, one picks out a certain 'this' to which the relative applies. Secondly, assuming a specific reading of double, what would Aristotle say to the counter-example, i.e. the fact that a double like 36,096 shows that (iii) does not follow from (ii)? The obvious move would be to admit that although one can know 36,096 is double without knowing what of it is double, one cannot know *definitely* that 36,096 is double without knowing of what it is double.[34] How does this distinction work?

We saw above that definite knowledge of the correlative implies that one reads the correlative specifically. Since 36,096 is even, I know that 36,096 is double. In virtue of this, I know that 36,096 is double of a half. But this is to take 'half' schematically. We do not take into account the identity of the items that fall under 'half'. The result is that I have *some* cognitive access to the correlative of 36,096. I know that whatever number it is, it must be a half. But I do not know what number it is. That is, I do not know the correlative definitely.

If this is correct, Aristotle's point here depends on taking double and half specifically. When we read them that way, double will obey PCS, and we can make sense of the explanation that Aristotle gives for why double does obey PCS. It follows that R2 relatives are those that are supposed to obey PCS. When read schematically, relatives do obey PCS, and for the reason Aristotle gives. This is all strong evidence that R2 relatives are relatives taken specifically.

My second reason to think that R2 relatives are relatives taken specifically is Aristotle's explanation of why a relative like hand, an R1 relative, does not obey PCS. Again, this explanation has proved difficult to understand. So difficult, in fact, that many scholars think the transmitted text is corrupt. Here is the text (*Cat.* 8b15-21) as it stands in Minio-Paluello 1949, the latest Oxford edition:

34 Ackrill 1963, 102 mentions, but does not endorse this move. He says that, if we endorse the move, we owe an explanation of why the same move cannot be made in the case of 'hand': such an explanation is precisely what I have given here. If 'hand' is understood specifically, then there is no way to know hand definitely.

T6: (i) τὴν δέ γε κεφαλὴν καὶ τὴν χεῖρα καὶ ἕκαστον τῶν τοιούτων αἵ εἰσιν οὐσίαι αὐτὸ μὲν ὅπερ ἐστὶν ὡρισμένως ἔστιν εἰδέναι, (ii) πρὸς ὃ δὲ λέγεται οὐκ ἀναγκαῖον· (iii) τίνος γὰρ αὕτη ἡ κεφαλὴ ἢ τίνος ἡ χεὶρ οὐκ ἔστιν εἰδέναι ὡρισμένως· (iv) ὥστε οὐκ ἂν εἴη ταῦτα τῶν πρός τι· (v) εἰ δὲ μή ἐστι τῶν πρός τι, ἀληθὲς ἂν εἴη λέγειν ὅτι οὐδεμία οὐσία τῶν πρός τί ἐστιν.

(i) But regarding head and hand and each of this sort of thing which are substances, it is possible to know definitely what it is itself, (ii) but not necessary (to know definitely) in relation to what it is spoken of. (iii) For it is not possible to know definitely to what this head or hand belongs; (iv) so that these things would not be among the relatives. (v) If they are not among the relatives, it might be true to say that no substance is among the relatives.

Here, Aristotle explains why relatives like hand do not obey PCS and so are not R2 relatives. To fail the PCS test, hand should satisfy the antecedent of PCS, but not the consequent. That is, the following would be true: (a) I know definitely hand; and (b) I do not know definitely the correlative of hand. (iii) should entail (b), but (iii) just seems obviously false. If I definitely know a hand, then, of course it is not *necessary* that I know whose hand it is. But Aristotle apparently thinks that it not *possible* for me to know definitely whose hand it is, which seems absurdly strong.[35]

My reading can explain Aristotle's meaning here, without altering the transmitted text. (i) and (ii), everyone agrees, amount to Aristotle pointing out that head and other such relatives fail PCS. (i) says that head satisfies the antecedent of PCS, while (ii) denies that it satisfies the consequent. (iii) then explains

35 A popular strategy to evade this crux is to amend the text to include ἀναγκαῖον between οὐκ and ἔστιν in (iii). (iii) would then mean (iii′): 'for it is not *necessary* to know definitely to what this head (αὕτη ἡ κεφαλή) or hand belongs'. Ackrill 1963, 23 and Mignucci 1986, 121 both take this option. Various earlier translators have read (iii) as (iii′) without emending (Apostle 1980, 15; Pelletier 1983, 42; Oehler 1984, 21; Zanatta 1989, 343, cited in Sedley 2002, 328 n. 5). Sedley points to three problems with this strategy. First, αὕτη, the demonstrative pronoun 'this', is not Aristotle's usual locution for picking out an individual. Secondly, 'head' in (iii) is supposed to be a secondary substance; at 8a24-8 parts of secondary substances were picked out as problematic, but on Ackrill's emendation, Aristotle has forgotten that this is his worry and is saying that we need to know definitely the *primary* substance to which it is related. Thirdly, the correlative of R1 relatives, as Aristotle stresses, should not be any old individual or indeed any old secondary substance. Rather it should be the proper correlative. In this case, it should be 'the handed'.

why head does not satisfy the consequent. The problem is to understand precisely what Aristotle's explanation is supposed to be.

I read the passage this way. (i) says that it is possible to know definitely head. Since the extensional adequacy challenge involved secondary substances, Aristotle cannot mean head as a primary substance, otherwise the explanation would be off target. So head must pick out a secondary substance. But since the head is known definitely, it must be a specific sort of head. Suppose that I know head definitely and head is taken specifically. Aristotle must, then, mean that I can know the general features that a head has, such as, a head is the part of the body functionally adapted for ingesting food and protecting the core of the central nervous system.[36] This is strongly suggested by Aristotle's remark that one can 'know definitely what it [sc. head] is itself (αὐτὸ μὲν ὅπερ ἐστίν)'. That is, one can know definitely the head without knowing definitely the correlative, the headed. Indeed, knowing definitely 'head' does not entail knowing definitely the correlative of 'head'.[37]

(ii) and (iii) explain why knowing definitely the correlative does not follow. Knowing head, taken specifically, does entail that I know head is head of the headed. But, as we saw above in the case of more beautiful, this does not amount to definite knowledge of the correlative. The correlative, the headed, does not tell us anything about specific things that have heads, except that they have heads. That is, the headed is schematic. The only information that we get from the correlative, the headed, is that items that fall under it have a head. When read schematically, the headed does not give us information about the identities of those individuals, so Aristotle is completely correct to say that it is not possible that we know definitely what the correlative of 'head' is, if knowing definitely implies knowing a specific correlative.[38]

---

36 Other commentators also take this to be Aristotle's meaning here: Mignucci 1986, 120; Morales 1994, 264; Sedley 2002, 331; Harari 2011, 532.

37 Although knowing definitely the relative does not entail knowing definitely the correlative, knowing definitely the relative does not rule out all cognitive access to the correlative. We could always concoct a definition of the correlative of the form 'thing correlative to such-and-such a relative', but Aristotle would not count this as definite knowledge of the correlative.

38 This explanation does not tell us what to do with the problematic 'this' (αὕτη) in (iii). The demonstrative pronoun is difficult since it suggests that primary substances are suddenly at stake in (iii), while (i) concerns secondary substances. Sedley suggests reading αὐτή, 'itself' (2002, 330). This makes the text much more comprehensible, as 'the head itself' could easily be a way for Aristotle to refer to the secondary substance 'head'. But such adjustments may not be needed. The demonstrative pronoun is regularly anaphoric in Greek. So 'this head' (αὕτη ἡ κεφαλὴ) in (iii) could simply pick up 'the head' in (i). This

On my reading, Aristotle's reasoning is compressed, but coherent. R1 relatives fail the PCS test because a relative, like head, read schematically can satisfy the antecedent of PCS, but it cannot satisfy the consequent. Schematic relatives simply do not contain enough information to allow us to draw any definite conclusions about their correlatives. This also explains Aristotle's puzzling remark that it is not possible to know the correlative. Under certain conditions, it is not possible to know the correlative of head, even though I know the relative. Those conditions, I have argued, are when the relatives are read schematically. Taking R1 relatives as schematic and R2 as specific explains why Aristotle thinks R1 relatives fail PCS. It also explains the reasoning Aristotle sketches. These are good reasons to think that R1 relatives are schematic, while R2 are specific, relatives.

Finally, if mine is the correct reading, then Aristotle's peculiar expression, 'being is the same as being somehow relative to something' (τὸ εἶναι ταὐτόν ἐστι τῷ πρός τί πως ἔχειν) at 8a32 should be consistent with a specific use of relatives. Take again the simple example of a father. If we exemplify Aristotle's account with a relative, father, we get a statement 'being a father is the same as being somehow relative to something'. At first this seems a false generalisation. Suppose we replace 'somehow relative' and 'something' with 'larger' and 'Ajax'. Clearly being a father is not the same as being larger than Ajax.

However, once we understand that Aristotle intends 'being is the same as being somehow relative to something' to express a specific understanding of the relative, this makes sense. On a specific understanding of a father, the 'somehow relative' and 'something' are not placeholders for any relationship and any object. Rather they are placeholders only for the specific relationship and the specific correlative. In the case of 'father' this would be 'father of' and 'their offspring'. Being a father is the same as being a father in relation to some specific offspring, that father's offspring. This is both true and what we would expect if R2 were intended to indicate that a relative be understood specifically.

---

would solve the problem in a tidy way, since whatever 'head' means in (i) 'head' means the same in (iii). I want to stress, however, that there is no philological reason to be conservative here. Aristotle wrote without diacritics, an apparatus that arose later. Hence scholars can add or remove accents and breathings without violating Aristotle's own text. In particular, there is no philological reason to prevent Sedley altering the breathings and accents we find in our manuscripts.

5 Addressing the Extensional Adequacy Worry and Aristotle's Attitude to Relatives

I have now argued, on the basis of Aristotle's text, that R1 and R2 differ in intension not extension. Aristotle distinguishes two different ways to understand each relative: schematically and specifically. It remains for my reading to explain how Aristotle could think that this difference in meaning solves the extensional adequacy worry he raised at 8a20-27.

Recall that the extensional adequacy worry constituted an argument for the unacceptable conclusion that a hand is both a relative and a substance. Traditionally, scholars read Aristotle as trying to avoid this conclusion by rejecting R1 and replacing it with a definition of a narrower extension. I suggest that Aristotle would avoid the conclusion by articulating an ambiguity in premise (2) of the argument reconstructed in Section 2, namely, 'hand is said to be hand of a body'. This ambiguity is between reading this premise specifically and reading it schematically. On one reading, the premise is true, but the argument is invalid; on the other reading the premise is false, so the argument is not sound.

On a specific reading of the relatives hand and body, this premise is true but the argument invalid. Taken specifically, 'hand is said to be hand of a body' means that some specific hand is said to be the hand of something. This is no doubt true: my hand is said to be hand of my body, for example. However, according to *Categories* 8a18-21 this entails that my hand is not a relative. My specific hand is not a relative: 'the specific hand is not said to be a specific hand of something, but rather hand of something' (*Cat*. 7, 8a18-19). Insofar as my hand is understood specifically, my hand is not of something, and hence is not a relative. Thus, specific items are not relatives and nor are their parts (8a18-22). But for the argument to be valid, premise 2 cannot rule out that my hand is a relative. However, read specifically, premise 2 does, according to Aristotle, block hand from being a relative. Hence, on a specific reading of premise 2, the extensional adequacy argument is invalid.

Indeed, even if we take (2) as picking out a specific sort of hand, say, human hand, rather than a specific individual hand, the extensional adequacy argument is invalid, for parallel reasons. A specific sort of hand is a secondary substance. Aristotle, at 8a22-4, is very clear that secondary substances, as such, are not relatives. He points out that the secondary substance human is not said to be human of something, nor is ox said to be ox of something, nor is timber said to be timber of something. Rather, the secondary substance human is said to be rational animal; ox is said to be a bovine draft animal and timber to be wooden trunks. Only in so far as they are possessions (κτῆμα, 8a24), for

example, are secondary substances 'of something'. Taken in their own right, secondary substances are not of something. So secondary substances are not relatives. Thus, on any specific reading of (2), hand cannot be a relative, and hence the extensional adequacy argument is invalid.

On a schematic reading of 'hand' and 'body', (2) is false and so the argument does not soundly derive the problematic conclusion. Read schematically, hand and body should be indifferent to the specific identities of the items that fall under them. But 'hand is hand of a body', while true of some bodies and hands, is not true of other pairs. In fact, as Aristotle went to great lengths to point out at 7b15-8a12, the proper correlative for 'hand', when read schematically, would be 'handed'.[39] So the claim that 'hand is hand of a body' is false, when these are taken schematically.

Finally, does my reading avoid the interpretative difficulty which faces the extensional reading? If, as the extensional reading claims, Aristotle seeks to replace R1 with R2, why does he waver, in the *Categories* and elsewhere in his corpus, between the two conceptions of relatives? For example, at *Categories* 8, 11a20-36 Aristotle argues that we should not be concerned about some items, such as grammar, apparently falling into both relatives and qualities. The extensional reading, as we saw, found this hard to explain. But on my reading, it is easy to make sense of Aristotle's argument.

Aristotle's idea is this: (i) in virtue of its genus, 'grammar' is a relative; but (ii) in virtue of itself, grammar is a quality. (i) holds because, in general, knowledge is knowledge of something. (ii) holds because, in the particular case of 'grammar', grammar is not grammar of something. If I am correct, Aristotle's thought is simple. 'Knowledge', read schematically, is knowledge of something (the knowable). In virtue of this, knowledge is a relative, in the R1 sense. But 'knowledge', taken specifically, picks out a certain sort of knowledge, say, grammar. In virtue of this, the sort of knowledge, grammar, need not be a relative, except in the R2 sense.

Since R1 and R2 are simply different ways of understanding relatives, Aristotle need not select one way of understanding relatives to the exclusion of the other. Indeed, from a practical point of view, it makes sense to have both conceptions available, depending on the philosophical and dialectical work that we need relative terms to do. The only proviso is that we do not overlook the ambiguity, which, if I am correct, Aristotle articulates in *Categories* 7. This

39 Aristotle does not mention the example of 'hand and handed' but, since he mentions 'head' and 'headed', this omission surely has no significance.

perfectly explains Aristotle's concluding remark in *Categories* 8, 11a37-8 that there is nothing absurd in counting one item in the relative and the quality categories: understood schematically, an item could be a relative, but understood specifically, it need not be.

6 Conclusion

In this paper, I have examined Aristotle's distinction of substance and relatives in *Categories* 7. The traditional reading holds that R1 and R2, Aristotle's two accounts of relatives, differ in extension. Substances, specifically secondary substances, fall outside R2 but within R1. So Aristotle rejects R1 in favour of R2. I have argued that this reading does not explain Aristotle's apparent reaffirmation of the R1 conception of relatives elsewhere in the *Categories* and in his corpus. In place of the extensional account, I have argued that R1 and R2 describe different ways of reading each relative. The categorical properties of R1 relatives are explicable if relatives are read schematically. Aristotle's discussion of PCS is explicable if R2 relatives are relatives read specifically. With this ambiguity identified, Aristotle can avoid the unacceptable conclusion that some relatives are substances, because the argument for this conclusion does not go through.

References

Ackrill, J. L. (1963) (tr.), *Aristotle's Categories and De Interpretatione.* Oxford.

Apostle, H. G. (1980) (tr.), *Aristotle's Categories and Propositions* (*De Interpretatione*). Vol. 3. Grinnell, Iowa.

Barnes, J. (2007), *Truth, Etc*. Oxford.

Bodéüs, R. (2001) (ed. and tr.), *Aristote: Les Catégories.* Paris.

Brown, L. (1986), 'Being in the Sophist: A Syntactical Enquiry', *Oxford Studies in Ancient Philosophy* 4: 49-70.

Caujolle-Zaslawsky, F. (1980), 'Les relatifs dans les *Catégories*' in R. Brague (ed.), *Concepts et catégories dans la pensée antique* (Paris), 167-95.

Chisholm, R. M. (1996), *A Realistic Theory of Categories: An Essay on Ontology*. Cambridge.

Duncombe, M. (2012), 'Plato's Absolute and Relative Categories at *Sophist* 255c14', *Ancient Philosophy* 31: 77-86.

———. (2013), 'The Greatest Difficulty at *Parmenides* 133c-134e and Plato's Relative Terms', *Oxford Studies in Ancient Philosophy* 45: 43-63.

———. (*forthcoming*), 'The Role of Relatives in Plato's Partition Argument, *Republic* IV 436b9-439c9', *Oxford Studies in Ancient Philosophy*.

Erler, M. (1992), 'Relation Antike' in J. Ritter et al. (eds.), *Historisches Wörterbuch der Philosophie* vol. 8 (Basel), 578-86.

Frede, M. (1981), 'Categories in Aristotle' in D. O'Meara (ed.), *Studies in Aristotle* (Washington DC), 1-24.

———. (1992), 'Plato's *Sophist* on False Statements' in R. Kraut (ed.), *The Cambridge Companion to Plato* (Cambridge), 397-424.

Harari, O. (2011), 'The Unity of Aristotle's Category of Relatives', *Classical Quarterly* 61: 521-37.

Hood, P. (2004), *Aristotle on the Category of Relation*. Lanham, Maryland.

Johansson, I. (1989), *Ontological Investigations: An Inquiry into the Categories of Nature, Man, and Society*. London.

Jones, R. (2010), 'Truth and Contradiction in Aristotle's *De Interpretatione* 6-9', *Phronesis* 55: 26-67.

Kennedy, C. (2007), 'Vagueness and Grammar: The Semantics of Relative and Absolute Gradable Adjectives', *Linguistics and Philosophy* 30: 1-45.

Kitcher, P. (1978), 'Positive Understatement: The Logic of Attributive Adjectives', *Journal of Philosophical Logic* 7: 1-17.

Leigh, F. (2012), 'Modes of Being at *Sophist* 255c-e', *Phronesis* 57: 1-28.

Malcolm, J. (1981), 'On the Generation and Corruption of the Categories', *The Review of Metaphysics* 34: 662-81.

Mignucci, M. (1986), 'Aristotle's Definitions of Relatives in *Cat*. 7', *Phronesis* 31: 101-27.

Minio-Paluello, L. (1949) (ed.), *Aristotelis Categoriae et Liber de Interpretatione*. Oxford.

Morales, F. (1994), 'Relational Attributes in Aristotle', *Phronesis* 39: 255-74.

Nawar, T. (2013), 'Knowledge and True Belief at *Theaetetus* 201a-c', *British Journal for the History of Philosophy* 21: 1052-70.

Oehler, K. (1984) (tr.), *Kategorien.* Berlin.

Pelletier, Y. (1983) (tr.), *Les Attributions* (*Catégories*)*: Le texte aristotélicien et les Prolégomènes d'Ammonios d'Hermeias*. With G. Allard, L. Brunet and L. Ouellet. Montreal / Paris.

Quine, W. V. (1956), 'Quantifiers and Propositional Attitudes', *The Journal of Philosophy* 53: 177-87.

Rosenkrantz, G. and Hoffman, J. (1994), *Substance Among Other Categories*. Cambridge.

Sedley, D. (2002), 'Aristotelian Relativities' in J. Brunschwig, M. Canto-Sperber and P. Pellegrin (eds.), *Le style de la pensée: Recueil des texts en homage à Jacques Brunschwig* (Paris), 324-52.

Smyth, H. W. (1956), *Greek Grammar*. Revised by G. M. Messing. Harvard.

Wallace, J. (1972), 'Positive, Comparative, Superlative', *The Journal of Philosophy* 69: 773-82.

Wheeler, S. C. (1972), 'Attributives and their Modifiers', *Nous* 6: 310-34.

Whitaker, C. W. A. (1996), *Aristotle's De Interpretatione: Contradiction and Dialectic*. Oxford.

Zanatta, M. (1989) (tr.), *Aristotele, Le Categorie*. Milan.